03-13-06

AF/3724

Docket No. 313,375 (DT-3734)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT:	Horst Grafe et al.
SERIAL NO.	09/710,390
FILED:	November 9, 2000
FOR:	HIGH-SPEED SHEARS FOR TRANSVERSE CUTTING OF A ROLLED STRIP
EXAMINER:	Jason D. Prone Group: 3724

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandra, VA 22313-1450

BRIEF ON APPEAL

Sir:

This is a brief in support of an appeal from the Final rejection of claim 23 by the Examiner.

A check in the amount of $500 to cover the fee required under 37 C.F.R. § 41.20(b)(2) is enclosed. The Commissioner is authorized to charge any additional fee which may be required or credit an overpayment to our Deposit Account No. 01-0035.

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee, a German company SMS Demag AG.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

The present application was filed with nine (9) claims, namely, claims 1-9. During the prosecution, claims 1-9 were canceled, and claims 10-23 were added. Subsequently, claims 10-22 were also canceled. Claim 23 is now present in the application for appeal purposes.

Claim 23 stands rejected. Claims 1-22 are canceled.

Claim 23 is being appealed.

IV. STATUS OF AMENDMENTS

The Final Office Action was issued on November 21, 2005.

The Examiner rejected Claims 23 under 35 U.S.C. § 103(a) as being unpatentable over Sieger, U.S. Patent NO. 2,076,969 (Sieger '969) in view of Sieger, U.S. Patent No. 2,588,581 (Sieger '581), Martin, U.S. Patent No. 3,037,396 (Martin, and Sato et al., U.S. Patent No. 5,207,138 (Sato).

No amendment after final rejection has been filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to high-speed shears for transverse cutting of a rolled strip. The shears includes an upper blade support formed as a beam bridge (16) having a relatively large diameter and carrying a first blade (7) and having a shaft stub (15, 15^1) on each of opposite longitudinal sides thereof, and a lower blade drum (2) having a comparatively small diameter and carrying a second blade (8) (page 9, lines 1-5, page 10, lines 2-4; Fig. 3a). There is further provided means for permanently rotationally connecting the beam bridge (16) with the lower drum (2) and having two synchronization tooth gears (11, 9) fixedly connected with the beam bridge (16) and the blade drum (2), respectively, having different pitch circle diameters corresponding roughly to diameters of respective blades, and engaging each other substantially backlash-free (page 9, lines 1-5, Fig. 3a). The first and second blades (7, 8) cooperating with each other in a predetermined cutting position of the beam bridge and the lower blade drum for cutting the rolled strip.

There are further provided two pinch-roller sets (4, 5) located in front of and behind the beam bridge and the blade drum, respectively, for advancing the

rolled strip under longitudinal tensioning through a gap between the beam bridge and the blade drum (page 8, lines 4-7, Fig. 1), and roller means (6, 6^1) for supporting the tensioned strip (10) and providing for lifting of the strip before passing of the second lower blade (8) and for lowering the strip before passing of the first upper blade (7) through the blade gap (page 8, lines 7-10, Fig. 1). In order to at least minimize the backlash, the tooth gear (9) associated with the blade drum (2) is divided in two gear portions (9a, 9b), and the shear further comprises bolt means (9c) for securing the two gear portions in a predetermined angular position with respect to each other (page 11, the second paragraph, insert between lines 7-8; Fig. 3a). A number of x-revolutions of the beam bridge (16) corresponds to a number y-revolutions of the blade drum (2) so that the beam bridge and the blade drum are brought into the cutting position after different but finite number of the x-revolutions of the beam bridge and the y-revolutions of the blade drum (page 7, last two lines, page 8, lines 1-2).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claim 23 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sieger, U.S. Patent No. 2,076,969 (Sieger '969) in view of Sieger, U.S. Patent No. 2,588,581 (Sieger '581), Martin, U.S. Patent No. 3,037,396 (Martin), and Sato et al., U.S. Patent No. 5,207,138 (Sato).

VII. ARGUMENTS

Claim 23, the only claim presently pending in the application, specifically recites:

an upper blade support formed as a beam bridge having a relatively large diameter and carrying a first blade and having a shaft stub on each of opposite longitudinal sides thereof;

a lower blade drum having a comparatively small diameter and carrying as second blade; and

roller means for supporting the tensioned strip and providing for lifting of the strip before passing of the second lower blade and for lowering the strip before passing of the first upper blade through the blade gap.

The Office Action asserts that because Sieger '581 teaches that an upper blade support has a relatively large diameter and a lower drum support has a comparatively small diameter, it would have been obvious to provide the Sieger '969 with a larger upper blade support and a smaller lower blade support to allow the small drum to be placed inside the apparatus . . . (Office Action, page 3, last five (5) lines. Applicant would like to point out that the object of Sieger '969 to provide for shearing off precise lengths and has nothing to do with

making the apparatus more compact. Neither is this an object of Seiger '581 nor of the present invention.

It is respectfully submitted that this assertion is not tenable. Firstly, Sieger '581 teaches three drums (17, 16, 18) with both outside drums (17, 18) having a larger diameter than the middle drum (16), with the lowest drum (18) having even a greater diameter than the upper drum (17). Further, Sieger '581 has no disclosure whatsoever of replacement of the components.

Sieger '581 provides a plurality of drums with different diameters in order to provide a wide range of length into which a strip passing therethrough is to be cut, without necessitating the removal from or the addition of cutting elements to the rotary members (column 2, lines 1-5).

Further, such substitution would be contrary to express teaching of Sieger '969 that the lower carrier (drum) is designed so that it will engage the strip during a small portion of its revolution (page 1, lines 52-55, page 2, line 1), i.e., so that its diameter is greater than the diameter of the upper carrier.

Further, the Examiner asserts that Sieger '969 discloses roller means for supporting the tensioned strip and providing for lifting of the strip before

passing of the lower blade and for lowering the strip before passing of the upper blade. Appellants respectfully disagree with this assertion.

The Examiner lists a number of elements (19,, 17, 16, 26, 25, 27, 29, 24, 31) which allegedly constitute roller means. It should be pointed out that of all of the listed elements, only one element (19) is a roller that does not support a tensioned strip. Firstly, it is to be pointed out that the strip in Sieger '969 is not tensioned, as only an end of the strip is cut off (the crop end). The mechanism the Examiner refers to (apron 16, crank mechanism 24, 25, 26, latch 17, solenoid 31) is designed to deflect the cut-off end piece into a chute (11). It is noted that the strip support apron (16) is retained in a fixed position almost at all times (page 2, lines 69-70). Clearly, the mechanism of Sieger '969 functions completely differently from the supporting roller means (6, 6^1) according to the present invention.

According to case law, in order to meet a "means-plus-function" limitation, the prior art must (1) perform the identical function recited in the means limitation and (2) perform that function using the structure disclosed in the specification or an equivalent structure. *Cf. Carroll Touch Inc. v. Electro Mechanical Sys. Inc.,* 1578 27 USPQ2d 1836, 1840 (Fed. Cir. 1994); *Valmont*

Indus. Inc. v. Reinke Mfg. Co., 25 USPQ2d 1451, 1454 (Fed. Cir. 1993); *Johnston v. IVAC Corp.*, 12 USPQ2d 1382, 1386 (Fed. Cir. 1989).

Even assuming, *arguendo*, that the mechanism (19,, 17, 16, 26, 25, 27, 29, 24, 31) performs the "identical" functions, which it does not, the structure of this mechanism in no way can be considered an equivalent structure of rollers (6, 6^1), as disclosed in the subject application.

The combination of features set forth in claim 23 provides for high-speed shears that insure precise cutting of hot and/or cold strips, with the strip being transported with high speed. It is respectfully submitted that the combination set forth in claim 23 would not be obvious in view of the prior art and would not be obvious over the combination of Sieger '969, Sieger '581, Martin, and Sato.

Under MPEP §2143 *prima facie* of obviousness requires that three basic criteria be met.

> First, there must be some suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitation.

It is respectfully submitted that the first element of *prima facie* obviousness has not been established.

> "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggesting supporting the combination. Under section 103, teachings of references can be combined only if there is some suggesting or incentive to do so."

In re Fritch, 23 U.S.P.Q. 2d 1780, 1783 (Fed. Cir 1992) (footnote omitted). See also *In re Sernaker*, 217 U.S.P.Q. 1, 6 (Fed. Cir. 1983): *SmithKline Diagnostics, Inc. v. Helena Laboratories Corp.*, 8 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989); *In re Fine*, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1988).

There is no suggestion, incentive or motivation in the cited references for the combination on which the Office Action relies. A statement that it would have been obvious to one skilled in the art to make modifications to the references is not sufficient to establish a *prima facie* case of obviousness. MPEP §2143.01 relying on *Ex Parte Levengood*, 28 U.S.P.Q. 2d 1300 (Bd. Pat. App. & Inter. 1993). In order to establish a prima facie case of obviousness, "it

is necessary for the Examiner to present evidence, preferably in the form of some teaching, suggesting incentive or influence in the prior art, or in the form of generally available knowledge, that one having ordinary skill in the art would have been led to combine the relevant teachings." Id. At 1301.

The Federal Circuit has held that a claimed invention was not obvious, where "[c]onspicuously missing from [the] record as any *evidence*, other than the PTO's speculation (if it be called evidence) that one skilled in the art would have been motivated to make the modification of the prior art "necessary to arrived at the claimed invention. *In re Jones* 21 U.S.P.Q. 2d 1941 (Fed. Cir. 1992). No such evidence is seen in the Office Action.

Ex Parte Clapp, 227 U.S.P.Q. 972, 973 (Bd. Pat. App & Inter. 1985) requires that when the references do not suggest the invention ". . . the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teaching of the references." No such convincing line of reasoning is seen in the Office Action.

The Court of Appeals for the Federal Court clearly stated:

> It is impermissible to use the claimed invention as an instruction manual or template to piece together the teaching of the prior art so that the claimed invention is rendered obvious.

In re Fritch, 23 U.S.P.Q. 2d 1780, 23 1780, 1783 (Fed. Cir. 1992)

In the In re Fritch holding only confirmed a long established view that obviousness should not be read "into an invention on the basis of Applicant's own statements", that the prior art must be viewed "without reading into that art Appellant's teachings", an that that teachings of the prior should, "in and of themselves and without the benefits of Appellant's disclosure (emphasis in the original text) make the invention as a whole, obviously." *In re Sponnoble*, 160 U.S.P.Q. 237, 243 (CCPA 1969). It is respectfully submitted that the teachings of the prior art does not make the present invention obvious.

It is respectfully submitted that obviousness of the present invention over the combination Sieger'981, Sieger'581, Martin, and Sato can be gleaned only form a hindsight reconstruction.

The Court of Appeals for the Federal Circuit has consistently ruled that it is not permissible to use hindsight to reject a claim.

As pointed out in *Uniroyal v. Redkin-Willey*, 5 U.S.P.Q. 2d 1434, 1438 (Fed. Cir. 1988):

> When prior art references require selective combination by the Court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. . . . Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination.

* * *

> . . . it is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention."

In *Orthopedic Equipment Company, Inc. v. United States*, 217 U.S.P.Q. 193-199 (Fed. Cir. 1983), the Federal Circuit warned:

> The difficulty which attaches to all honest attempts to answer this question [of obviousness based upon a combination of prior art.] can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness in a court of law

In view of the above, it is respectfully submitted that the combination of Sieger '969, Sieger '581, Martin, and Sato would be unobvious.

VIII. **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the rejection of Claim 23 under 35 U.S.C. §103(a) as being unpatentable over Sieger, U.S. Patent No. 2,076,969 (Sieger '969) in view of Sieger, U.S. Patent No. 2,588,581 (Sieger '581), Martin, U.S. Patent No. 3,037,396 (Martin), and Sato et al., U.S. Patent No. 5,207,138 (Sato) is improper, and it is respectfully solicited that this rejection be reversed.

Respectfully submitted,

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Dated: March 10, 2006

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APPENDIX A

Claims on Appeal:

23. High-speed shears for transverse cutting of a rolled strip comprising:

an upper blade support formed as a beam bridge having a relatively large diameter and carrying a first blade and having a shaft stub on each of opposite longitudinal sides thereof;

a lower blade drum having a comparatively small diameter and carrying a second blade;

means for permanently rotationally connecting the beam bridge with the lower drum and having two synchronization tooth gears fixedly connected with the beam bridge and the blade drum, respectively, having different pitch circle diameters corresponding roughly to diameters of respective blades, and engaging each other substantially backlash-free, the first and second blades cooperating with each other in a predetermined cutting position of the beam bridge and the lower blade drum for cutting the rolled strip;

two pinch-roller sets located in front of and behind the beam bridge and the blade drum, respectively, for advancing the rolled strip under

longitudinal tensioning through a gap between the beam bridge and the blade drum; and

roller means for supporting the tensioned strip and providing for lifting of the strip before passing of the second lower blade and for lowering the strip before passing of the first upper blade through the blade gap,

wherein in order to at least minimize the backlash, the tooth gear associated with the blade drum is divided in two gear portions, and the shear further comprises bolt means for securing the two gear portions in a predetermined angular position with respect to each other,

wherein a number of x-revolutions of the beam bridge corresponds to a number y-revolutions of the blade drum so that the beam bridge and the blade drum are brought into the cutting position after different but finite number of the x-revolutions of the beam bridge and the y-revolutions of the blade drum.

APPENDIX B

Evidence Appendix

None

APPENDIX C

Related Proceeding Appendix

None

APPENDIX D

Cases relied upon:

1. *Carroll Touch Inc. v. Electro Mechanical Sys. Inc.*, 27 USPQ2d 1836, 1840 (Fed. Cir. 1994).

2. *Valmont Indus. Inc. v. Reinke Mfg. Co.*, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993).

3. *Johnston v. IVAC Corp.*, 12 USPQ2d 1382, 1386 (Fed. Cir. 1989).

4. *In re Fritch*, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).

5. *In re Sernaker*, 217 USPQ 1, 6 (Fed. Cir. 1986).

6. *SmithKline Diagnostics, Inc. v. Helena Laboratories Corp.*, 8 USPQ2d 1397, 1399 (Fed. Cir. 1989).

7. *In re Fine*, 5 UPSQ2d 1596, 1598 (Fed. Cir. 1988).

8. *Ex Parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

9. *In re Jones*, 21 USPQ2d 1941 (Fed. Cir. 1992).

10. *ExParte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

11. *In re Sponnoble*, 160 USPQ 237, 243 (CCPA).

12. *Uniroyal v. Red Kin-Willey* 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

13. *Orthopedic Equipment Company, Inc. v. United States*, 217 USPQ 193-199 (Fed Cir. 1983).